

Remarks

Reconsideration of this Application is respectfully requested.

Claims 2-8 and 27 are sought to be cancelled without prejudice or disclaimer. Applicants reserve the right to prosecute similar or broader claims in a continuation application. Claims 1, 11, 29 and 30 are sought to be amended. Claims 31-36 are sought to be added. Upon entry of the foregoing amendment, claims 1, 10-11, and 29-36 are pending in the application, with claim 1 being the sole independent claim. No new matter has been entered based on these amendments.

Based on the above amendments and following remarks, Applicants respectfully request that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103(a)

Claims 1, 2, and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,249,370 to Takeuchi et. al. ("Takeuchi"). Claims 3-5, 7, 8, 11, and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi in view of U.S. Patent No. 6,549,694 to Makino et al. ("Makino"). Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi in view of U.S. Patent No. 6,639,722 to Amm et al. ("Amm"). Claims 29-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeuchi in view of U.S. Patent No. 5,943,623 to Frische et al. ("Frische"). Applicant respectively traverses these rejections.

Although Applicants disagree with the Examiner's rejection of Claims 2-8 and 27, these claims were cancelled in order to expedite prosecution. Therefore, the rejection of these claims should be rendered moot.

Claim 1 recites at least:

A spatial light modulator that modulates an incident wavefront, comprising:

reflective devices that individually modulate portions of the incident wavefront;

a continuous solid and substantially rigid substrate;

and
an actuator comprising actuator elements and first and second sets of electrodes

wherein respective electrodes in the first set of electrodes are coupled to a first portion of respective ones of the actuator elements and are coupled to respective ones of the reflective devices, and

wherein respective electrodes in the second set of electrodes are coupled to a second portion of the respective ones of the actuator elements and are coupled to the continuous solid and substantially rigid substrate.

The claimed invention recites a spatial light modulator that uses individual reflective devices to modulate portions of an incident wavefront. The reflective devices are actuated through use of an actuator having a first set of electrodes coupled between respective actuator elements and the reflective devices and a second set of electrodes coupled between respective actuator elements and the continuous solid and substantially rigid substrate.

In contrast, Takeuchi is directed to a display device that displays a picture image, which is being used to replace a cathode ray tube or liquid crystal display for color displays. The display device of Takeuchi includes a waveguide and an array of LEDs/shutter sections, which are actuated into and out of the light path in the waveguide to either reflect or block light traveling along the light path in the waveguide, which controls either outputting or preventing output of the light.

The actuation in Takeuchi is performed through having a flexible substrate (e.g., a vibrating substrate) attached to one end of the LEDs or shutters, which allows them to flex (e.g., cantilever, rotate, etc.) into or out of the light path. (See, e.g., Remarks in Reply under 37 C.F.R. 1.116 filed April 11, 2005 and Remarks in Amendment and Reply under 37 C.F.R. 1.111 filed November 17, 2004).

The flexible substrate is required in every embodiment of Takeuchi for it to function. (Id.) This stands in stark contrast to the continuous solid and substantially rigid substrate, as recited in claim 1. Thus, modifying or interpreting Takeuchi to teach a continuous solid and substantially rigid substrate would destroy the teachings of Takeuchi and render Takeuchi inoperable, and thus teaches away from the Applicants' presently claimed invention.

Moreover, as discussed above, the claimed invention recites a spatial light modulator that uses individual reflective devices to modulate portions of an incident wavefront. In contrast, as Takeuchi functions by moving the LEDs or shutters into and out of a light path of light traveling through a waveguide, and not by modulating portions of an incident wavefront with individual reflective devices, as recited in claim 1, Takeuchi teaches away from the recited features of claim 1. This is because Takeuchi never discusses being able to operate with respect to an incident wavefront, as it teaches that operation is required to be with respect to light traveling in a waveguide.

Therefore, Takeuchi teaches away from at least having: (a) reflective devices that individually modulate portions of the incident wavefront; and (b) a continuous solid and substantially rigid substrate wherein respective electrodes in the second set of electrodes are coupled to a second portion of the respective ones of the actuator elements and are coupled to the continuous solid and substantially rigid substrate, as recited in claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

Dependent claims 10-11 and 29-36 are allowable over the applied references for at least the same reason that independent claim 1 is allowable. Neither Makino, Amm, or Frische add anything to cure the deficiencies of Takeuchi with respect to the present invention.

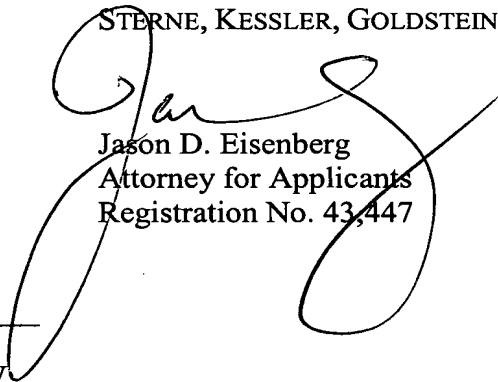
Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.


Jason D. Eisenberg
Attorney for Applicants
Registration No. 43,447

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1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

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